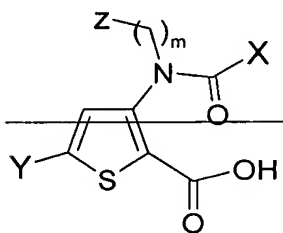


The following listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-24. (Cancelled):

25. (Currently Amended) A method for treating or preventing a Flaviviridae viral infection in a host comprising administering to the host a therapeutically effective amount of at least one compound according to claim 50, ~~having the formula:~~



~~or pharmaceutically acceptable salts thereof;~~

~~wherein;~~

~~Z is 3-7 membered heterocycle or 3-7 membered cycloalkyl;~~

~~Y is 6-10 membered aryl;~~

~~X is 3-10 membered cycloalkyl;~~

~~m is an integer from 0-1;~~

~~provided that when Y is unsubstituted phenyl then X is other than 4-methylcyclohexane.~~

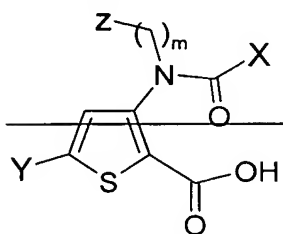
26. (Currently Amended) A method according to claim 25, wherein said pharmaceutically acceptable salt salts is sodium salt.

27. (Cancelled):
28. (Cancelled):
29. (Cancelled):
30. (Cancelled):
31. (Cancelled):
32. (Cancelled):
33. (Original) A method according to claim 25, wherein X is 4-methyl-cyclohexyl or 2-hydroxy-4-methyl-cyclohexyl.
34. (Cancelled):
35. (Currently Amended): A method according to Claim 25 1, wherein said Flaviviridea viral infection is HCV.
36. (Cancelled):
37. (Cancelled):
38. (Currently Amended): A method according to Claim 64 36, wherein said compound is a pharmaceutically acceptable salts is sodium salt.
39. (Currently Amended): A method according to Claim 64 36, wherein said Flaviviridea viral infection is HCV.
40. (Currently Amended): A method according to Claim 25 36, further comprising administering at least one additional agent chosen from viral serine protease

inhibitor, viral polymerase inhibitor, viral helicase inhibitor, immunomodulating agent, ~~antioxidant~~ ~~antioxydant~~ agent, antibacterial agent, therapeutic vaccine, hepatoprotectant agent or antisense agent.

41. (Previously Presented): A method according to Claim 25, further comprising administering at least one additional agent chosen from interferon  $\alpha$ , ribavirin, silybum marianum, interleukine-12, amantadine, ribozyme, thymosin, N-acetyl cysteine or cyclosporin.

42. (Currently Amended): A method for inhibiting or reducing the activity of a flaviviridae viral polymerase in a host comprising administering to said host a therapeutically effective amount of at least one compound according to claim 50. ~~having the formula:~~



~~or pharmaceutically acceptable salts thereof;~~

~~wherein;~~

~~Z is 3-7 membered heterocycle or 3-7 membered cycloalkyl;~~

~~Y is 6-10 membered aryl;~~

~~X is 3-10 membered cycloalkyl;~~

~~m is an integer from 0-1;~~

~~provided that when Y is unsubstituted phenyl then X is other than 4-methylcyclohexane.~~

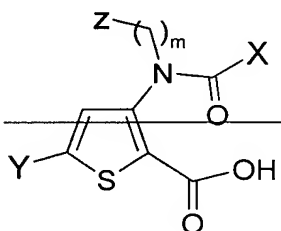
43. (Cancelled):

44. (Cancelled):

45. (Currently Amended): A method as defined in Claim 42 37, wherein said polymerase is a RNA-dependant RNA-polymerase.

46. (Currently Amended): A method as defined in Claim 42 37, wherein said polymerase is HCV polymerase.

47. (Currently Amended): A pharmaceutical composition comprising at least one compound according to claim 50 and at least one pharmaceutically acceptable carrier or excipient. having the formula:



~~or pharmaceutically acceptable salts thereof;~~

~~wherein;~~

~~Z is 3-7 membered heterocycle or 3-7 membered cycloalkyl;~~

~~Y is 6-10 membered aryl;~~

~~X is 3-10 membered cycloalkyl;~~

~~m is an integer from 0-1;~~

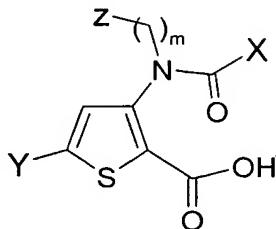
~~provided that when Y is unsubstituted phenyl then X is other than 4-methylecyclohexane;~~

~~and at least one pharmaceutically acceptable carrier or excipient.~~

48. (Cancelled):

49. (Cancelled):

50. (New): A compound of the formula:



or a pharmaceutically acceptable salt thereof;

wherein;

Z is cyclohexyl substituted by one or more substituents independently chosen from oxo, halogen, SO<sub>2</sub>R<sub>f</sub>, CONR<sub>g</sub>R<sub>h</sub>, C<sub>1-6</sub> alkyl, C<sub>6-12</sub> aralkyl, C<sub>6-12</sub> aryl, C<sub>1-6</sub> alkyloxy, C(O)C<sub>1-6</sub> alkyl, C<sub>3-10</sub> heterocycle, hydroxyl, NR<sub>g</sub>R<sub>h</sub>, C(O)OR<sub>f</sub> or cyano;

R<sub>f</sub>, R<sub>g</sub> and R<sub>h</sub> in each case are independently H or C<sub>1-6</sub> alkyl;

Y is unsubstituted phenyl or phenyl substituted by one or more substituents independently chosen from halogen, nitro, SO<sub>2</sub>R<sub>f</sub>, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkyloxy, C(O)C<sub>1-6</sub> alkyl, C(O)OR<sub>f</sub>, cyano and azido;

X is cyclohexyl unsubstituted or substituted by one or more substituents independently chosen from C<sub>1-6</sub> alkyl, halogen, C<sub>2-6</sub> alkenyl, C<sub>2-6</sub> alkynyl or C<sub>1-6</sub> alkyloxy; and

m is 0.

51. (New): A compound according to claim 50, wherein Z is oxo-cyclohexyl, hydroxy-cyclohexyl, hydroxyimino-cyclohexyl, methoxyimino-cyclohexyl, methoxy-cyclohexyl, carboxy-cyclohexyl, or hydroxy-methyl-cyclohexyl.

52. (New): A compound according to claim 50, wherein Y is phenyl, phenyl substituted by F, phenyl substituted by Cl, phenyl substituted by methoxy, phenyl substituted

by cyano, phenyl disubstituted by F, or phenyl disubstituted by acetyl.

53. (New): A compound according to claim 50, wherein X is methyl-cyclohexyl or fluoro-methyl-cyclohexyl.

54. (New): A compound according to claim 51, wherein Y is phenyl, phenyl substituted by F, phenyl substituted by Cl, phenyl substituted by methoxy, phenyl substituted by cyano, phenyl disubstituted by F, or phenyl disubstituted by acetyl.

55. (New): A compound according to claim 51, wherein X is methyl-cyclohexyl or fluoro-methyl-cyclohexyl.

56. (New): A compound according to claim 54, wherein X is methyl-cyclohexyl or fluoro-methyl-cyclohexyl.

57. (New): A compound according to claim 56, wherein Z is hydroxy-cyclohexyl, hydroxyimino-cyclohexyl, methoxyimino-cyclohexyl, methoxy-cyclohexyl, carboxy-cyclohexyl, or hydroxy-methyl-cyclohexyl.

58. (New): A compound according to claim 52, wherein Y is phenyl, 4-fluoro-phenyl, 3-fluoro-phenyl, 4-chloro-phenyl, 4-methoxy-phenyl, 4-cyano-phenyl, 3,4-difluoro-phenyl, or 4-acetyl-phenyl.

59. (New): A compound according to claim 53, wherein X is 4-methyl-cyclohexyl or 1-fluoro-4-methyl-cyclohexyl.

60. (New): A compound according to claim 50, wherein said compound is selected from:

3-[(4-METHYL-CYCLOHEXANECARBONYL)-(4-OXO-CYCLOHEXYL)-AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID;

3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-

AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID;  
 3-[(4-HYDROXYIMINO-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-  
 AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID;  
 3-[(4-METHOXYIMINO-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-  
 AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID;  
 3-[(4-METHOXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-  
 AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID;  
 3-[(4-HYDROXY-CYCLOHEXANECARBONYL)-(4-METHYL-CYCLOHEXYL)-  
 AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID;  
 5-(4-FLUORO-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-  
 CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID;  
 5-(3-FLUORO-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-  
 CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID;  
 5-(4-CHLORO-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-  
 CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID;  
 3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-  
 AMINO]-5-(4-METHOXY-PHENYL)-THIOPHENE-2-CARBOXYLIC ACID;  
 5-(4-CYANO-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-  
 CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID;  
 5-(4-FLUORO-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-  
 CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID;  
 3-[(4-CARBOXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-  
 AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID;  
 3-[(4-CARBOXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-  
 AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID;  
 5-(3,4-DIFLUORO-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-  
 CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID;  
 5-(4-ACETYL-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-

CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID;  
 3-[(4-HYDROXY-4-METHYL-CYCLOHEXYL)-(4-METHYL-  
 CYCLOHEXANECARBONYL)-AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC  
 ACID;  
 3-[(3-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-  
 AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID;  
 3-[(4-HYDROXY-4-METHYL-CYCLOHEXYL)-(4-METHYL-  
 CYCLOHEXANECARBONYL)-AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC  
 ACID;  
 3-[(3-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-  
 AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID; and

pharmaceutically acceptable salts thereof.

61. (New): A method for treating or preventing a Flaviviridae viral infection in a host comprising administering to the host a therapeutically effective amount of at least one compound according to claim 57.

62. (New): A method according to claim 61, further comprising administering at least one additional agent chosen from viral serine protease inhibitor, viral polymerase inhibitor, viral helicase inhibitor, immunomodulating agent, antioxidant agent, antibacterial agent, therapeutic vaccine, hepatoprotectant agent or antisense agent.

63. (New): A method according to claim 61, further comprising administering at least one additional agent chosen from interferon  $\alpha$ , ribavirin, silybum marianum, interleukine-12, amantadine, ribozyme, thymosin, N-acetyl cysteine or cyclosporin.

64. (New): A method for inhibiting or reducing the activity of a flaviviridae viral polymerase in a host comprising administering to said host a therapeutically effective amount



of at least one compound according to claim 60.

65. (New): A method as defined in Claim 64, wherein said polymerase is a RNA-dependant RNA-polymerase.

66. (New): A method as defined in Claim 64, wherein said polymerase is HCV polymerase.

67. (New): A pharmaceutical composition comprising at least one compound according to claim 60 and at least one pharmaceutically acceptable carrier or excipient.

68. (New): A compound according to claim 60, wherein said compound is 3-[(4-METHYL-CYCLOHEXANECARBONYL)-(4-OXO-CYCLOHEXYL)-AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

69. (New): A compound according to claim 60, wherein said compound is 3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

70. (New): A compound according to claim 60, wherein said compound is 3-[(4-HYDROXYIMINO-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

71. (New): A compound according to claim 60, wherein said compound is 3-[(4-METHOXYIMINO-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

72. (New): A compound according to claim 60, wherein said compound is 3-[(4-METHOXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

73. (New): A compound according to claim 60, wherein said compound is 3-[(4-HYDROXY-CYCLOHEXANECARBONYL)-(4-METHYL-CYCLOHEXYL)-AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

74. (New): A compound according to claim 60, wherein said compound is 5-(4-FLUORO-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

75. (New): A compound according to claim 60, wherein said compound is 5-(3-FLUORO-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

76. (New): A compound according to claim 60, wherein said compound is 5-(4-CHLORO-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

77. (New): A compound according to claim 60, wherein said compound is 3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-5-(4-METHOXY-PHENYL)-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically

acceptable salt thereof.

78. (New): A compound according to claim 60, wherein said compound is 5-(4-CYANO-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

79. (New): A compound according to claim 60, wherein said compound is 3-[(4-CARBOXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

80. (New): A compound according to claim 60, wherein said compound is 5-(3,4-DIFLUORO-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

81. (New): A compound according to claim 60, wherein said compound is 5-(4-ACETYL-PHENYL)-3-[(4-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

82. (New): A compound according to claim 60, wherein said compound is 3-[(4-HYDROXY-4-METHYL-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-5-PHENYL-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

83. (New): A compound according to claim 60, wherein said compound is 3-[(3-HYDROXY-CYCLOHEXYL)-(4-METHYL-CYCLOHEXANECARBONYL)-AMINO]-5-

PHENYL-THIOPHENE-2-CARBOXYLIC ACID, or a pharmaceutically acceptable salt thereof.

84. (New): A compound according to claim 60, wherein said compound has a monosubstituted-cyclohexyl group attached to the amino and the mono-substituent group of the cyclohexyl group attached to the amino is in the trans position relative to the amino.

85. (New): A compound according to claim 84, wherein said compound has a 3-substituted-cyclohexyl group or 4-substituted-cyclohexyl group attached to the amino.

86. (New): A compound according to claim 84, wherein said compound has a 4-hydroxy-cyclohexyl group attached to the amino.

87. (New): A compound according to claim 60, wherein said compound has a monosubstituted-cyclohexyl group attached to the amino and the mono-substituent group of the cyclohexyl group attached to the amino is in the cis position relative to the amino.

88. (New): A compound according to claim 87, wherein said compound has a 3-substituted-cyclohexyl group or 4-substituted-cyclohexyl group attached to the amino.

89. (New): A compound according to claim 87, wherein said compound has a 4-hydroxy-cyclohexyl group attached to the amino.

90. (New): A compound according to claim 84, wherein said compound has a monosubstituted-cyclohexyl group attached to the carbonyl and the mono-substituent of the cyclohexyl group attached to the carbonyl is in the trans position relative to the carbonyl.

91. (New): A compound according to claim 85, wherein said compound has a

monosubstituted-cyclohexyl group attached to the carbonyl and the mono-substituent of the cyclohexyl group attached to the carbonyl is in the trans position relative to the carbonyl.

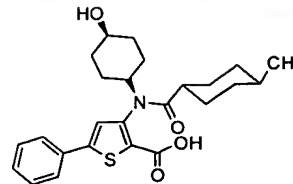
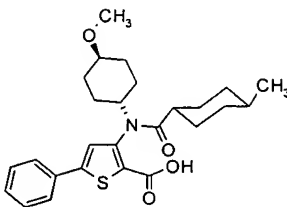
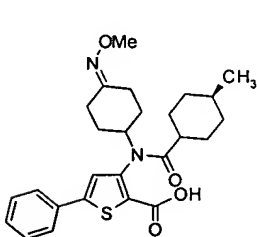
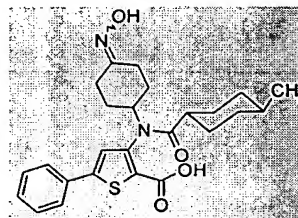
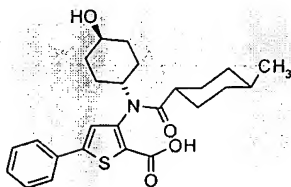
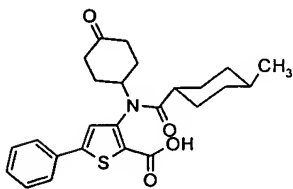
92. (New): A compound according to claim 86, wherein said compound has a monosubstituted-cyclohexyl group attached to the carbonyl and the mono-substituent of the cyclohexyl group attached to the carbonyl is in the trans position relative to the carbonyl.

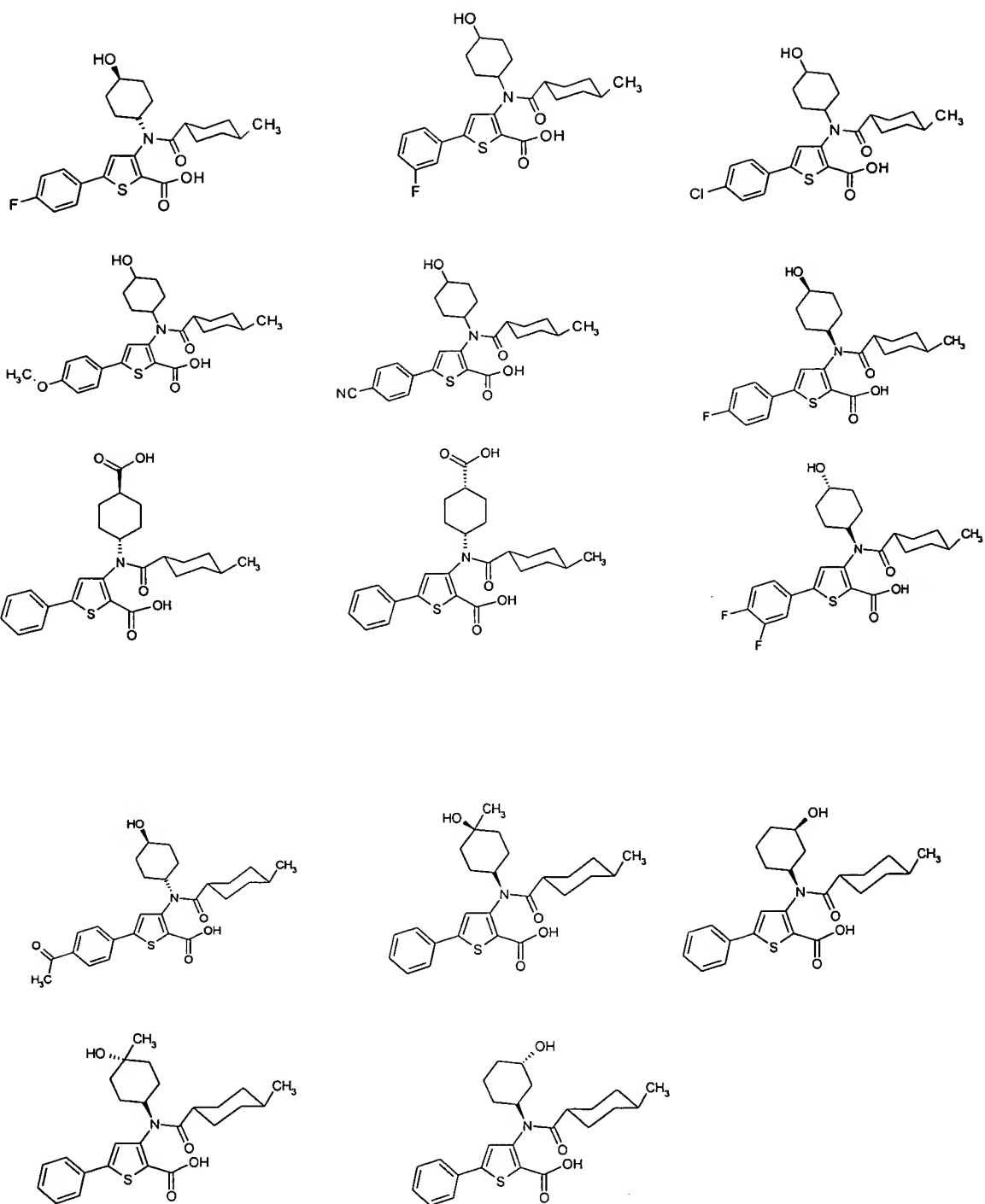
93. (New): A compound according to claim 90, wherein said compound has a 4-hydroxy-cyclohexyl group attached to the carbonyl.

94. (New): A compound according to claim 91, wherein said compound has a 4-hydroxy-cyclohexyl group attached to the carbonyl.

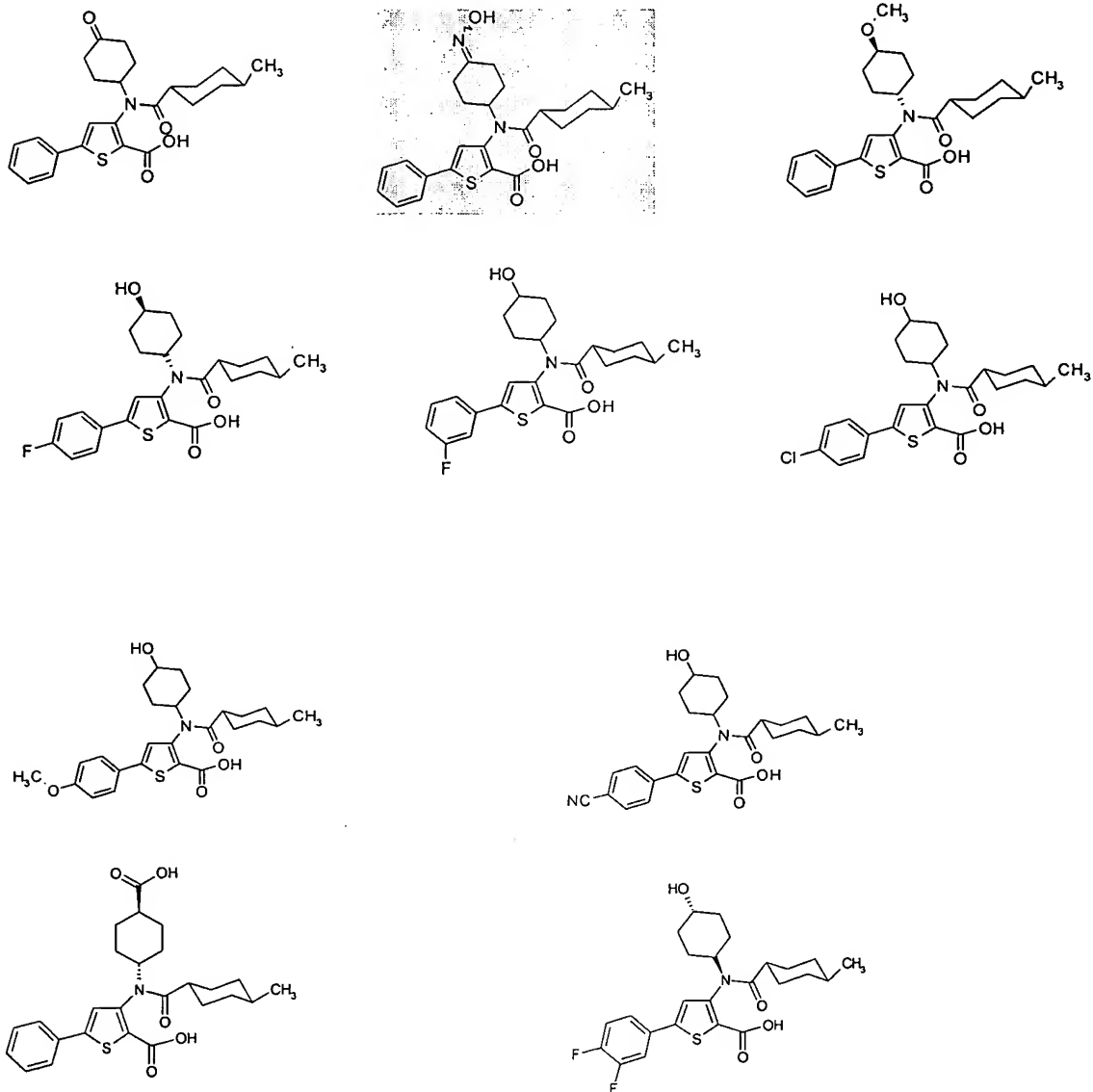
95. (New): A compound according to claim 92, wherein said compound has a 4-hydroxy-cyclohexyl group attached to the carbonyl.

96. (New): A compound according to claim 86, wherein said compound is selected from compounds of the following formulas and pharmaceutically acceptable salts thereof:





97. (New): A compound according to claim 96, wherein said compound is selected from compounds of the following formulas and pharmaceutically acceptable salts thereof:

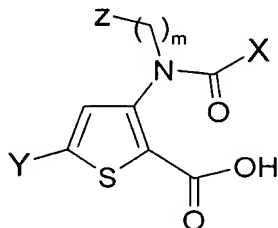


98. (New): A compound according to claim 60, wherein said compound is:  
3-[(*trans*-4-Hydroxy-cyclohexyl)-(*trans*-4-methyl-cyclohexanecarbonyl)-amino]-5-

phenyl-thiophene-2-carboxylic acid, or a pharmaceutically acceptable salt thereof; or

*cis*-3-[(4-Hydroxy-4-methyl-cyclohexyl)-(4-methyl-cyclohexanecarbonyl)-amino]-5-phenyl-thiophene-2-carboxylic acid, or a pharmaceutically acceptable salt thereof.

99. (New): A compound of the formula:



or a pharmaceutically acceptable salt thereof;

wherein;

Z is ethyl-piperidinyl, isopropyl-piperidinyl, methyl-oxo-piperidinyl, acetyl-piperidinyl, formyl-piperidinyl, cyano-piperidinyl, methanesulfonyl-piperidinyl, aminooxalyl-piperidinyl, methylcarbamoyl-piperidinyl, benzyl-piperidinyl, methoxybenzyl-oxo-piperidinyl, azepanyl, methyl-azepanyl, oxo-azepanyl, hydroxy-cyclopentyl, hydroxy-cyclohexyl, methoxy-cyclohexyl, carboxy-cyclohexyl, hydroxy-methyl-cyclohexyl, oxo-cyclohexyl, hydroxyimino-cyclohexyl, methoxyimino-cyclohexyl, tetrahydrothiopyranyl, 1-tetrahydrothiopyranyl, or 1,1-dioxo-tetrahydrothiopyranyl;

R<sub>f</sub>, R<sub>g</sub> and R<sub>h</sub> in each case are independently H or C<sub>1-6</sub> alkyl;

Y is unsubstituted phenyl;

X is 4-methylcyclohexyl; and

m is 0-1.

100. (New): A compound according to claim 99, wherein said compound is



selected from:

4-[(2-Carboxy-5-phenyl-thiophen-3-yl)-(trans-4-methyl-cyclohexanecarbonyl)-amino]-1-methyl-piperidinium,

3-[(trans-4-Methyl-cyclohexanecarbonyl)-(tetrahydro-thiopyran-4-yl)-amino]-5-phenyl-thiophene-2-carboxylic acid,

3-[(1,1-Dioxo-tetrahydro-thiopyran-4-yl)-(trans-4-methyl-cyclohexanecarbonyl)-amino]-5-phenyl-thiophene-2-carboxylic acid,

3-[(trans-4-Methyl-cyclohexanecarbonyl)-(1-oxo-tetrahydro-1 $\lambda$ 4\*-thiopyran-4-yl)-amino]-5-phenyl-thiophene-2-carboxylic acid, and  
pharmaceutically acceptable salts thereof.

101. (New): A compound according to claim 99, wherein Z is isopropyl-piperidinyl, methyl-oxo-piperidinyl, acetyl-piperidinyl, formyl-piperidinyl, cyano-piperidinyl, methanesulfonyl-piperidinyl, aminooxalyl-piperidinyl, methylcarbamoyl-piperidinyl, benzyl-piperidinyl, methoxybenzyl-oxo-piperidinyl, azepanyl, methyl-azepanyl, oxo-azepanyl, hydroxy-cyclopentyl, hydroxy-cyclohexyl, methoxy-cyclohexyl, carboxy-cyclohexyl, hydroxy-methyl-cyclohexyl, oxo-cyclohexyl, hydroxyimino-cyclohexyl, methoxyimino-cyclohexyl, tetrahydrothiopyranyl, 1-oxo-tetrahydrothiopyranyl, or 1,1-dioxo-tetrahydrothiopyranyl.